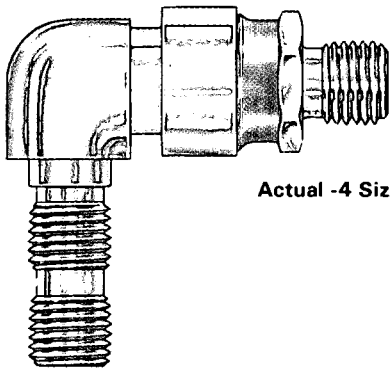
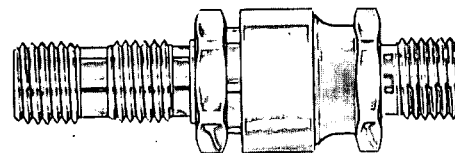




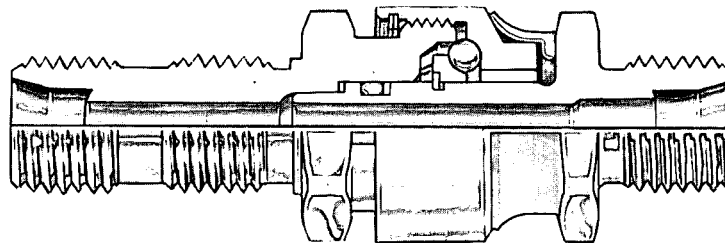
## Low Profile, 1817 Series, 3000 PSI Hydraulic Ball Bearing Swivel Joints



Actual -4 Size



Actual -4 Size



Qualified to MIL-J-5513C plus 5,000,000\* endurance test cycles.

Aeroquip's 1817 Series ball bearing plane swivel joints are qualified to MIL-J-5513 Revision C for dependable 3,000 psi service. Aeroquip engineers have designed these swivel joints to provide exceptionally long trouble-free service. Design features include:

- Ball bearings which minimize torque and maximize service life
- Stainless steel material minimizes envelope size and maximizes strength
- Dust seal excludes grit contamination which protects the ball bearings and seals for increased service life
- Less than 5 psi pressure loss through straight configuration at rated flow

Aeroquip ball bearing plane swivel joints may be used with hose assemblies to prevent binding or twisting of the hose and to provide a flexible joint in rigid lines. These low profile swivels are available in -4\*, -6, -8, -10, -12 and -16 sizes with flared, flareless or Dynatube† fitting ends.

### Design Data

**Service:** Swivel joints shown are for MIL-H-5606 and MIL-H-83282 hydraulic fluid. Swivels are available for Skydrol applications and any fluid or gas compatible with available seals.

**Material:** Corrosion resistant steel.

**Pressures:** Operating 3,000 psi  
Proof 6,000 psi  
Minimum Burst 12,000 psi

**Temperature Range:** -65°F. to +275°F. (-54°C. to +132°C)

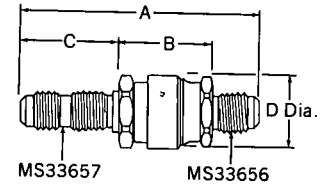
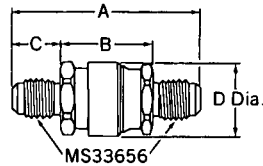
**Qualification:** MIL-J-5513C Type II Class 3000, Style a.

\* The -4 size was subjected to 5,000,000 endurance test cycles beyond MIL-J-5513C qualification requirement for a special helicopter rotor head application. Test report is available upon request.

† Dynatube is a Resistoflex registered trademark

# Flared Ends

Service  
MIL-H-5606 †  
MIL-H-83282

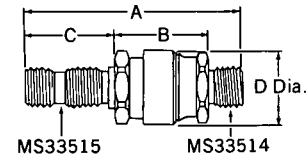
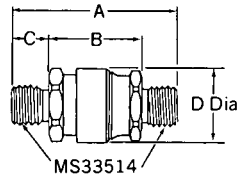


Size	Part Number	A Ref	B Ref	C ±.015	D Max	Wt. (Lbs.)
-4	AE81511E	2.07	.97	.550	.80	.12
-6	AE81511G	2.23	1.12	.556	.90	.19
-8	AE81511H	2.55	1.24	.657	1.19	.32
-10	AE81511J	2.94	1.42	.758	1.32	.46
-12	AE81511K	3.98	1.55	.864	1.52	.73
-16	AE81511M	3.60	1.78	.911	1.78	1.08

Size	Part Number	A Ref	B Ref	C ±.032	D Max	Wt. (Lbs.)
-4	AE81512E	2.57	.97	1.047	.80	.14
-6	AE81512G	2.80	1.12	1.125	.90	.21
-8	AE81512H	3.18	1.24	1.281	1.19	.36
-10	AE81512J	3.60	1.42	1.422	1.32	.52
-12	AE81512K	4.01	1.55	1.593	1.52	.84
-16	AE81512M	4.28	1.78	1.593	1.78	1.21

# Flareless Ends

Service  
MIL-H-5606 †  
MIL-H-83282

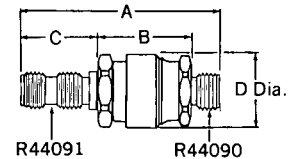
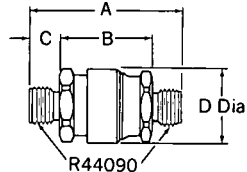


Size	Part Number	A Ref	B Ref	C ±.010	D Max	Wt. (Lbs.)
-4	AE81507E	1.87	.97	.453	.80	.11
-6	AE81507G	2.06	1.12	.469	.90	.18
-8	AE81507H	2.36	1.24	.562	1.19	.31
-10	AE81507J	2.67	1.42	.625	1.32	.42
-12	AE81507K	2.93	1.55	.688	1.52	.72
-16	AE81507M	3.16	1.78	.688	1.78	.98

Size	Part Number	A Ref	B Ref	C ±.032	D Max	Wt. (Lbs.)
-4	AE81508E	2.39	.97	.969	.80	.12
-6	AE81508G	2.61	1.12	1.015	.99	.20
-8	AE81508H	2.96	1.24	1.156	1.19	.35
-10	AE81508J	3.34	1.42	1.297	1.32	.48
-12	AE81508K	3.64	1.55	1.406	1.52	.79
-16	AE81508M	3.87	1.78	1.406	1.78	1.10

# Dynatube Ends

Service  
MIL-H-5606 †  
MIL-H-83282



Size	Part Number	A Ref	B Ref	C ±.015	D Max	Wt. (Lbs.)
-4	AE81515E	1.52	.97	.275	.88	.11
-6	AE81515G	1.71	1.12	.295	.90	.18
-8	AE81515H	1.86	1.24	.308	1.19	.30
-10	AE81515J	2.16	1.42	.372	1.32	.41
-12	AE81515K	2.37	1.55	.412	1.52	.66
-16	AE81515M	2.70	1.78	.460	1.78	.99

Size	Part Number	A Ref	B Ref	C ±.015	D Max	Wt. (Lbs.)
-4	AE81516E	1.92	.97	.680	.88	.12
-6	AE81516G	2.14	1.12	.719	.90	.19
-8	AE81516H	2.30	1.24	.755	1.19	.34
-10	AE81516J	2.69	1.42	.894	1.32	.46
-12	AE81516K	2.95	1.55	.990	1.52	.75
-16	AE81516M	3.32	1.78	1.082	1.78	1.09

NOTE: Electroless nickel on bolt (not qualified) -4 Dynatube only.

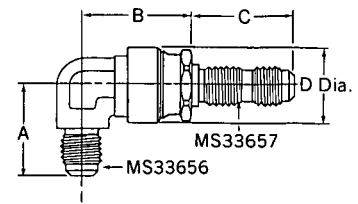
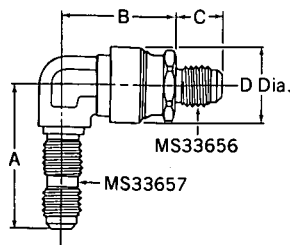
# Comparative Performance Data

Swivel Dash Size	Rated Flow (GPM)	TORQUE (In-Lbs)	
		MIL-J-5513C	Aeroquip Δ
-4	1.2	15	1
-6	3.5	30	3
-8	6.0	45	5
-10	10.5	60	8
-12	16.0	90	11
-16	29.0	135	15

Δ 3000 psi at room temperature

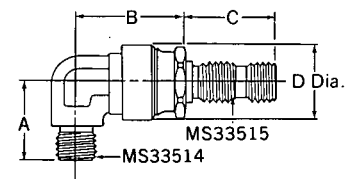
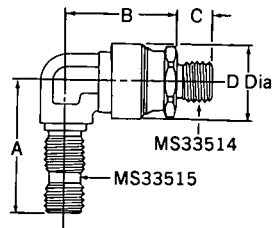
† Part numbers shown are for MIL-H-5606 and MIL-H-83282 hydraulic fluid. Contact Aeroquip for Skydrol application part numbers.

All dimensions in inches



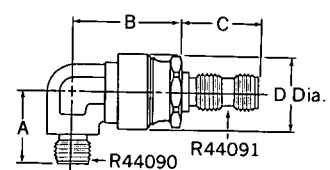
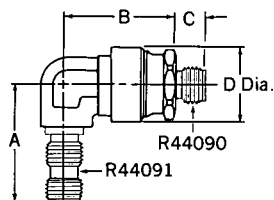
Size	Part Number	A Ref	B Ref	C ± .015	D Max	Wt. (Lbs.)
-4	AE81513E	1.55	1.21	.550	.80	.20
-6	AE81513G	1.72	1.47	.556	.99	.31
-8	AE81513H	1.97	1.71	.657	1.19	.53
-10	AE81513J	2.21	1.95	.758	1.32	.77
-12	AE81513K	2.48	2.16	.864	1.52	1.30
-16	AE81513M	2.61	2.53	.911	1.78	2.03

Size	Part Number	A Ref	B Ref	C ± .032	D Max	Wt. (Lbs.)
-4	AE81514E	.99	1.21	1.047	.80	.20
-6	AE81514G	1.09	1.47	1.125	.99	.31
-8	AE81514H	1.26	1.71	1.281	1.19	.53
-10	AE81514J	1.45	1.95	1.422	1.32	.77
-12	AE81514K	1.66	2.16	1.593	1.52	1.30
-16	AE81514M	1.84	2.53	1.593	1.78	2.03



Size	Part Number	A Ref	B Ref	C ± .010	D Max	Wt. (Lbs.)
-4	AE81509E	1.47	1.21	.453	.80	.16
-6	AE81509G	1.61	1.47	.469	.99	.30
-8	AE81509H	1.85	1.71	.562	1.19	.52
-10	AE81509J	2.09	1.95	.625	1.32	.71
-12	AE81509K	2.30	2.16	.688	1.52	1.26
-16	AE81509M	2.43	2.53	.688	1.78	1.94

Size	Part Number	A Ref	B Ref	C ± .032	D Max	Wt. (Lbs.)
-4	AE81510E	.89	1.21	.969	.80	.19
-6	AE81510G	1.00	1.47	1.015	.99	.30
-8	AE81510H	1.16	1.71	1.156	1.19	.52
-10	AE81510J	1.32	1.95	1.297	1.32	.71
-12	AE81510K	1.48	2.16	1.406	1.52	1.26
-16	AE81510M	1.61	2.53	1.406	1.78	1.94



Size	Part Number	A Ref	B Ref	C ± .015	D Max	Wt. (Lbs.)
-4	AE81517E	1.12	1.21	.275	.88	.18
-6	AE81517G	1.25	1.47	.295	.90	.29
-8	AE81517H	1.35	1.71	.308	1.19	.50
-10	AE81517J	1.59	1.95	.372	1.32	.70
-12	AE81517K	1.79	2.16	.412	1.52	1.21
-16	AE81517M	2.01	2.53	.460	1.78	1.91

Size	Part Number	A Ref	B Ref	C ± .015	D Max	Wt. (Lbs.)
-4	AE81518E	.71	1.21	.680	.88	.18
-6	AE81518G	.83	1.47	.719	.90	.29
-8	AE81518H	.90	1.71	.755	1.19	.50
-10	AE81518J	1.07	1.95	.894	1.32	.70
-12	AE81518K	1.21	2.16	.990	1.52	1.21
-16	AE81518M	1.39	2.53	1.082	1.78	1.91

**Flared Ends**



**MS33656 MS33657**

**Dynatube Ends**



**R44090 R44091**

**Flareless Ends**



**MS33514 MS33515**

Size	Letter Code	MS33656 MS33657 Thread	MS33514 MS33515 Thread	R44090 R44091 Thread
1/4	E	7/16-20	7/16-20	7/16-24
3/8	G	9/16-18	9/16-18	9/16-20
1/2	H	3/4-16	3/4-16	23/32-20
5/8	J	7/8-14	7/8-14	27/32-18
3/4	K	1 1/16-12	1 1/16-12	1-16
1	M	1 5/16-12	1 5/16-12	1 1/4-14

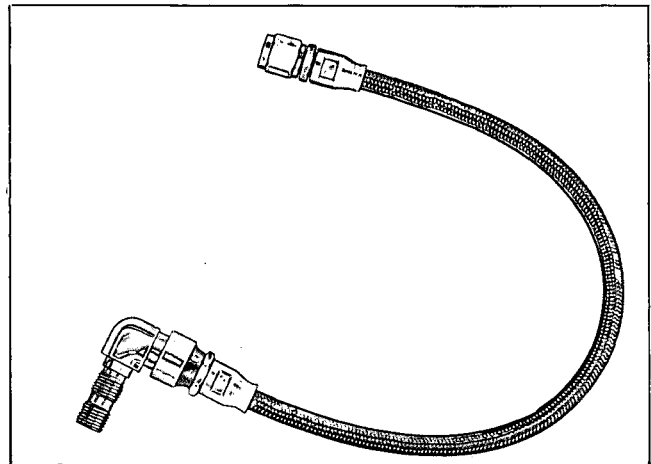
Other Configurations Available on Request

† Part numbers shown are for MIL-H-5606 and MIL-H-83282 hydraulic fluid. Contact Aeroquip for Skydrol application part numbers.

# Swivel Joint Capability

These 1817 Series low profile swivel joints are examples of Aeroquip's capability to design, test and manufacture high quality, long-lasting components which meet or exceed the requirements of aerospace technology. Engineering assistance is available to solve your specific installation problem with a special mounting provision, tube end configuration and seal combination.

Whatever your requirements for an 1817 Series ball bearing plane swivel joint, or any other type of flexible fluid line connection, contact Aeroquip Corporation, Aerospace Division, Jackson, Michigan 49203.



The swivel joint can be designed as an integral part of a hose assembly which increases reliability by reducing the number of potential leak points.



## Aerospace Group

100 S. East Avenue, Jackson, MI 49203-1972  
Phone: 517-787-8121, Telex: 223412, Fax: 517-787-5758

**A TRINNOVA Company**

**AEROQUIP CORPORATION / MAUMEE, OHIO, U.S.A. 43537**

*All products are protected by patents internationally*

***Aeroquip products are available through the world around the world***

**DISTRIBUTED BY**